532,776

**(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)**

10/532776

**(19) World Intellectual Property Organization**
International Bureau

**(43) International Publication Date**
6 May 2004 (06.05.2004)

**PCT**

**(10) International Publication Number**
**WO 2004/038351 A1**

**(51) International Patent Classification[7]:** G01J 4/04, G01M 11/00

**(21) International Application Number:**
PCT/EP2002/011932

**(22) International Filing Date:** 25 October 2002 (25.10.2002)

**(25) Filing Language:** English

**(26) Publication Language:** English

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**(81) Designated States** *(national):* AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

**(84) Designated States** *(regional):* ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**
— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(54) Title:** POLARIZATION CONVERSION UNIT FOR REDUCING POLARIZATION DEPENDENT MEASUREMENT ERRORS
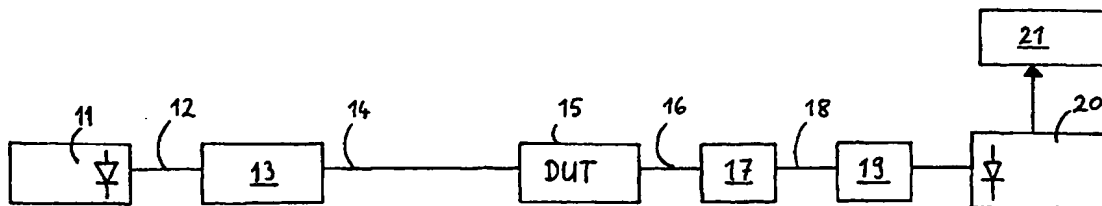


**(57) Abstract:** A first optical signal with a first polarization state is received by a polarization conversion unit. From this first optical signal, a set of n derived optical signals with n different well-defined polarization states i, i = 1, ..., n, is generated, whereby n is a natural number greater than one. Said n different well-defined polarization states are chosen such that polarization dependent measurement errors of the n derived optical signals cancel each other when averaged irrespective of the first optical signal's polarization state. Therefore, polarization dependent measurement errors can be reduced or even eliminated.